

WHAT IS CLAIMED IS:

1. A method for printing an image in accordance with digital image information representing the image, the method comprising the steps of:

- (a) mounting a printing plate on a plate drum;
- (b) supplying ink at a substantially constant rate to the printing plate;
- (c) generating surface area modulation data based on at least one of dot surface areas from the digital image information, and an ink film thickness on the printing plate due to the substantially constant rate of ink;
- (d) producing revised image data based on the surface area modulation data corresponding to at least one of ink supply rate for adjusting ink film thickness and dot surface areas; and
- (e) printing an image according to the revised image data by at least one of adjusting ink supply rate and exposing an image on the printing plate.

2. A method according to claim 1, further comprising the step of detecting at least one of ink film thicknesses and respective dot surface areas.

3. A method according to claim 1, further comprising the step of adjusting a supply rate of ink within a range of one image.

4. A method according to claim 1, wherein each of the steps is carried out independently and synchronously for a plurality of types of inks.

5. A method according to claim 2, further comprising the step of adjusting a supply rate of ink within a range of one image.

6. A method according to claim 2, wherein each of the steps is carried out independently and synchronously for a plurality of types of inks.

7. A method according to claim 3, wherein each of the steps is carried out independently and synchronously for a plurality of types of inks.

8. A printing system for use with printing plate, the printing system comprising a pressure drum and at least one plate drum disposed along an outer periphery of the pressure drum, comprises:

an exposure apparatus disposed for exposing a printing plate mounted on a plate drum according to digital image information representing an image and forming an image onto the printing plate;

a constant amount ink supplying device disposed for supplying a substantially constant rate of ink to the plate drum; and

an information processing device comprising program logic which prepares surface area modulation data based on at least one of an ink film thickness on the printing plate due to the substantially constant rate of ink and dot surface areas of the digital image information, and which produces revised image data based on the surface area modulation data, and controls the exposure apparatus to re-expose the printing plate according to the surface area modulation data.

9. A printing system according to claim 8, wherein the information processing device comprises image dividing logic which divides the digital image information into dots; a detector which detects at least one of ink film thickness and a dot surface area for each dots; and image information inversely converting logic which inversely converts the digital image data on the basis of the surface area modulation data such that at least one of the film thickness and the surface area detected by the detecting device becomes at least one of a film thickness and a surface area due to the substantially constant ink supply rate.

10. A printing system according to claim 8, further comprising another plate drum, wherein the plate drums correspond to the different types of ink from one another.

11. A printing system according to claim 8, wherein the constant

amount ink supplying device includes rollers and an ink key, and the ink key consists essentially of a single structure along an axial direction of the roller, and having an opening for allowing ink to flow out at a substantially constant rate.

12. A printing system according to claim 8 further comprising: a viscosity adjusting section which, before the ink is supplied to the plate drum, adjusts viscosity of the ink.

13. A printing system according to claim 9, further comprising another plate drum, wherein the plate drums correspond to the different types of ink from one another.

14. A printing system according to claim 9, wherein the image information inversely converting logic includes a data interchanging and modulation data generating logic sections.

15. A printing system according to claim 10, wherein the constant amount ink supplying device includes rollers and an ink key, and the ink key consists essentially of a single structure along an axial direction of the roller, and having an opening for allowing ink to flow out at a substantially constant rate.

16. A printing system according to claim 10, further comprising: a viscosity adjusting section which, before the ink is supplied

to the plate drum, adjusts viscosity of the ink.

17. A printing system according to claim 14, wherein the constant amount ink supplying device includes rollers and an ink key, and the ink key consists essentially of a single structure along an axial direction of the roller, and having an opening for allowing ink to flow out at a substantially constant rate.

18. A printing system according to claim 14, further comprising: a viscosity adjusting section which, before the ink is supplied to the plate drum, adjusts viscosity of the ink.

19. A printing system for use with printing plates, the printing system comprising a pressure drum and at least one plate drum disposed along an outer periphery of the pressure drum, comprises:

an ink supplying device which supplies a ink to the plate drum;

an information processing comprising program logic which prepares surface area modulation data based on at least one of an ink film thickness for when on a printing plate is mounted on the plate drum with ink supplied thereof, and dot surface areas of digital image information representing an image for printing, and which produces revised image data on the basis of the surface area modulation data; and

a printing section controlled on the basis of the surface

area modulation data.

20. A printing system according to claim 19, wherein plural types of inks can be utilized.

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